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EXAMINER	
CHU, KIM KWOK	

ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/623,654	HONG ET AL.	
	Examiner	Art Unit	
	Kim-Kwok CHU	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Amendment filed on 9/18/2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/538,748.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Remarks

1. Applicant's Amendment filed on September 18, 2006 has been fully considered. The rejected Claims 1-20 are cancelled and the new Claims 21-49 are rejected under 35 U.S.C. § 102(e) as being anticipated by Joo et al. (U.S. Patent 6,469,979).

Claim Objections

2. Claims 33-49 are objected to because of the following informalities:

(a) there are two Claims 33. Therefore, Claims 33, 33-49 should be renumbered as 33-50 respectively.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 26, 27, 40, 43-45 and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) in Claim 26, line 2, the term "at least one from an amount" does not read right and it might be typo error;

(b) similarly, in Claim 27 and 43-45, the terms "at least

one from an amount" does not read right and it might be typo error; and

(c) in Claims 40 and 47 the terms "read 2 channels" are indefinite because a term "channel 1 signals" is not defined yet.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> *A person shall be entitled to a patent unless --*
> *(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.*

6. Claims 21-49 are rejected under 35 U.S.C. § 102(e) as being anticipated by Joo et al. (U.S. Patent 6,469,979).

7. Joo teaches a method for controlling a servo operation of an optical recording medium having all of the steps as recited in claims 21-44. For example, Joo teaches the following steps:

(a) with respect to Claim 21, the optical recording medium including a non-writable area (33-40) having a plurality of header fields with at least one header field 33 staggered with respect to another header field 37 (Figs. 3 and 7A),

determining a difference between a first synchronization reference signal vfo1 included in the one header field 33 and a second synchronization reference signal vfo3 included in the another header field 37 (Fig. 3 and 7A; column 2, lines 19-21); and a control step for controlling the servo operation of the optical recording medium based on the determined difference in the determining step (Figs. 6 and 11; column 5, equations 2; column 8, lines 62-64).

(b) with respect to Claim 22, the first and second reference signals vfo1, vfo3 respectively correspond to read channel signals obtained from the one header field and the another header field, the read channel signals corresponding to a difference between reflected signals obtained by a split photo detector (Figs. 6; different signals such as vfos from ID1 and ID3 are detected in an optical head by a split photodetector).

(c) with respect to Claim 23, the first and second reference signals vfo1, vfo3 comprise VFO (Variable Frequency Oscillator) signals (Fig. 7A; column 2, lines 14-17).

(d) with respect to Claim 24, the determined difference between the first and second reference signals represents a radial tilt of the optical recording medium (Figs. 6 and 7A).

(e) with respect to Claim 25, the controlling step controls the servo operation of the optical recording medium to

compensate the radial tilt based on the determined difference between the first and second reference signals (Figs. 6, 7A and 11).

(f) with respect to Claim 26, the determining step further includes detecting at least one (signal) from an amount and a direction of the radial tilt (Figs. 6, 7A and 11).

(g) with respect to Claim 27, the controlling step controls the servo operation of the optical recording medium to compensate the radial tilt based on the detected amount and direction of the radial tilt (Figs. 6, 7A and 11).

(h) with respect to Claim 28, the plurality of header fields include at least first, second, third and fourth header fields ID1-ID4, and the one header field corresponds to the first header field and the another header field corresponds to the third header field in which the first header field is staggered with respect to the third header field (Fig. 3).

(i) with respect to Claim 29, the determined difference between the first and second reference signals vfo1, vfo3 corresponds to a level difference between the VFO signal of the first header field ID1 and the VFO signal of the third header field ID3 (Figs. 3 and 7A).

(j) with respect to Claim 30, the step of determines the difference between the first and second reference signals vfo1, vfo3 by comparing a potential difference between a track center

and the VFO signal of the first header field ID1 with a potential difference between the track center and the VFO signal of the third header field ID3 (Figs. 3 and 7A).

(k) with respect to Claim 31, the step of determines the difference between the first and second reference signals vfo1, vfo3 by comparing a potential difference between a ground level and the VFO signal of the first header field ID1 with a potential difference between the ground level and the VFO signal of the third header field ID3 (Figs. 6 and 7A; vfo signal is measured based on a ground reference).

(l) with respect to Claim 32, the first and second reference signals vfo1, vfo3 are a peak-to-peak value of the corresponding VFO signal (Figs. 3 and 7A; vfo is a clock signal having peak to peak value).

(m) with respect to Claim 33, the first and second reference signals vfo1, vfo3 are at least one from a bottom holding signal and a peak holding signal of the corresponding VFO signal (Fig. 7A; vfo signal is a pulse having peak and bottom value).

(n) with respect to another Claim 33, the first and second reference signals vfo1, vfo3 are a hold (stored) signal of a center of the corresponding VFO signal (Fig. 6; vfo signals are compared continuously in all ranges).

(o) with respect to Claim 34, the step of controlling further comprises comparing the determined difference of the first and second reference signals with a threshold value K0 (Fig. 6; equation 3, column 6).

(p) with respect to Claim 35, controlling the servo operation of the optical recording medium to compensate the radial tilt, if the compared difference is larger than the threshold value (Fig. 6).

(q) with respect to Claim 36, the plurality of header fields 33-40 include at least first, second, third and fourth header fields in which the first and second header fields 34, 36 are staggered with respect to the third and fourth header fields 38, 40 (Fig. 3).

(r) with respect to Claim 37, the step of determines a difference between a first signal detected from the first and second header fields and a second signal detected from the third and fourth header fields, and the step of controls the servo operation of the optical recording medium based on the determined difference between the first and second detected signals (Figs. 6 and 7A).

(s) with respect to Claim 38, the first reference signal vfo1 corresponds to a signal read from the first header field ID1, the second reference signal vfo2 corresponds to a signal read from the second header field ID2, a third reference signal

vfo3 corresponds to a signal read from the third header field ID3, and a fourth reference signal vfo4 corresponds to a signal read from the fourth header field ID4, and wherein the first signal detected from the first and second header fields is based on the first and second reference signals, and the second signal detected from the third and fourth header fields is based on the third and fourth reference signals (Figs. 3 and 6).

(t) with respect to Claim 39, the first, second, third and fourth reference signals vfo1-vfo4 comprise VFO (Variable Frequency Oscillator) signals (Fig. 3).

(u) with respect to Claim 40, the first, second, third and fourth VFO signals vfo1-vfo4 correspond to read channels obtained from the first, third, second and fourth header fields, respectively, the read channels corresponding to a difference between reflected signals obtained by a split photo detector (Fig. 6).

(v) with respect to Claim 41, the determined difference between the detected first and second signals Kt represents a radial tilt of the optical recording medium (Fig. 6).

(w) with respect to Claim 42, the controlling step controls the servo operation of the optical recording medium to compensate the radial tilt based on the determined difference between the detected first and second signals Kt (Fig. 6).

(x) with respect to Claim 43, the determining step further includes detecting at least one from an amount and a direction of the radial tilt (Fig. 6).

(y) with respect to Claim 44, the controlling step controls the servo operation of the optical recording medium to compensate the radial tilt based on the detected amount and direction of the radial tilt (Fig. 6).

8. Claims 45-47 have limitations similar to those treated in the above rejection, and are met by the reference as discussed above.

9. Claim 48 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above.

10. Claim 49 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Iwanaga (6,459,661) is pertinent because Iwanaga teaches an information recording/reproducing means having header detecting means and tracking error servo control means.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington, can be reached on (571) 272-4483.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).

Kim-Kwok CHU kc 11/23/2006

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ANDREA WELLINGTON
SUPERVISORY PATENT EXAMINER